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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/751,086	12/29/2000	Shigeru Yoneda	P/1909-144	5593

7590 09/12/2002

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EXAMINER

KIANNI, KAVEH C

ART UNIT PAPER NUMBER

2877

DATE MAILED: 09/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/751,086

Applicant(s)

YONEDA, SHIGERU

Examiner

Kevin C Kianni

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-6 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in any part of the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.
Claim 1, line 11, the phrase 'output slave waveguide' is a new subject matter which is not specified in any part of the specification in a such a concise manner as to enable any person skilled in the art to which it pertains to make and use the same.

Drawings

3. The drawings are objected to because certain/essential numbered elements of the drawings in figures 1-3, 5, 7, 10 and 11 are not labeled. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al. (US 6304687).

Regarding claim 1, Inoue teaches a temperature -independent arrayed waveguide grating (shown at least in fig. 8 and 18; see col. 1, lines 10-20), comprising an arrayed waveguide grating composed of one or a plurality of input waveguides (see fig. 18, array 41), an input slab waveguide including an input side 44 and an output side 44 (see fig. 18, slabs 44), said input side receiving light from said input waveguides (fig. 18, slab 44 receiving light from input waveguide 45), a plurality of arrayed waveguides including an input side 45 and an output side 45, said input side 45 being connected to said output side 45 of said input slab waveguide 44 (see fig. 18 item slab 44 being connected to input/output waveguides), an output slab waveguide 44 including an input side and an output side (shown in fig. 18, items slab 44 and input/output side of the slab), said input side being connected to said output side of said arrayed waveguides (shown in fig. 18, output slab 44 being connected to the output waveguide being input from the first slab 44), a plurality of output waveguides connected to said output side of said output slave waveguides (see fig. 18, item output waveguide 45 is connected to the output waveguide output from the first slab 44); a wedge-shaped groove 48 formed in a

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said arrayed waveguides (see fig. 18, item 48 and 41; col. 11, lines 33-39); and material filled in said groove (see fig. 18, item 48 and 41; col. 11, lines 33-39), said material having a negative refractive index temperature coefficient (see col. 3, lines 30-35 and col. 11, lines 33-45); wherein means disposed in said groove for confining light incident to said groove and for thereby preventing the light from spreading in said groove (see col. 16, lines 27-44). However, Inoue does not specifically teach that the above confining light is confined in a horizontal direction or in vertical and horizontal directions. It is well a person of ordinary skill in the art when the invention was made that when the light is confined in a groove the light would be confined to prevent loss in all directions, including horizontal and vertical directions; since this technique of waveguide grating would reduce the temperature dependency of the wavelength characteristic in lightwaveguide circuit (see col. 3, lines 7-11).

Regarding claim 2, Inoue further teaches wherein: said material filled in said groove is a photosensitive material; and difference in a refractive index is provided in said material using the photosensitivity, and optical waveguides are thereby formed in said material in a horizontal direction or in vertical and horizontal directions (see fig. 37 items 11 and 12; see also abstract and at least col. 16, lines 26-44 and line 59-col. 17, line 4).

Regarding claim 3, Inoue further teaches wherein said material filled in said groove has a refractive index higher than that of material of said arrayed waveguide grating (see col. 16, line 59-col. 17, line 4).

Regarding claim 4, Inoue further teaches wherein width of each core of said arrayed waveguides is enlarged before and after said groove (see fig. 37, item waveguide 36 and groove 12; also col. 16, lines 26-44).

Regarding claim 5, Inoue further teaches wherein said material filled in said groove is a photosensitive material having a refractive index higher than that of material of said arrayed waveguide grating; and difference in a refractive index is provided in said material using the photosensitivity and optical waveguides are thereby formed in said material in a vertical direction or in vertical and horizontal directions (see fig. 37 items 11 and 12; see also abstract and at least col. 16, lines 26-44 and line 59-col. 17, line 4).

Regarding claim 6, Inoue further teaches wherein said material filled in said groove has a refractive index higher than that of material of said arrayed waveguide grating (see col. 16, line 59-col. 17, line 4); and width of each core of said arrayed waveguides is enlarged before and after said groove (see fig. 37, item waveguide 36 and groove 12; also col. 16, lines 26-44).

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Citation of Relevant Prior Art

6. Prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In accordance with MPEP 707.05 the following references are pertinent in rejection of this application since they provide substantially the same information disclosure as this patent does. These references are:

Saito et al. 6377723 Teaches claims 1-6

Inoue et al. 5546483 Teaches claims 1-6

Logan et al. 4093345 Relevant to claims 1-6

Kurokawa et al. 6122419 Relevant to claims 1-6

He et al. 6169838 Relevant to claims 1-6

Seino 6104847 Relevant to claims 1-6

These references are cited herein to show the relevance of the apparatus/methods taught within this reference as prior art.

Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kaveh Cyrus Kianni whose telephone number is (703) 308-1216.

The examiner can normally be reached on Monday through Friday from 8:30 a.m. to 6:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font, can be reached at (703) 308-4881.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 308-7722, (for formal communications intended for entry)

or:

(703) 308-7721, (for informal or draft communications, please label
"PROPOSED" or "DRAFT")

Application/Control Number: 09/751,086

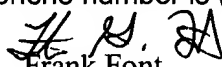
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Hand delivered responses should be brought to Crystal Plaza 4, 2021 South Clark Place, Arlington, VA., Fourth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0956.

Kevin Cyrus Kianni
Patent Examiner
Group Art Unit 2877



Frank Font

Supervisory Patent Examiner
Group Art Unit 2877

August 26, 2002